

CLAIMS

What is claimed is:

1. A method comprising:
 - determining network parameters;
 - determining host interface parameters;
 - setting a storage threshold capacity of a storage device based on at least one network parameter and at least one host interface parameter; and
 - transmitting a request to stop transmission of traffic to the storage device based the storage device exceeding the storage threshold capacity.
2. The method of Claim 1, further comprising adjusting the storage threshold capacity based on changes to a network parameter.
3. The method of Claim 1, further comprising adjusting the storage threshold capacity based on changes to a host interface parameter.
4. The method of Claim 1, wherein the network parameter includes at least one of the following:
 - link speed of a network that transmits traffic to the storage device;
 - signal propagation speed of a physical medium that transfers traffic from the network to the storage device;

length of the physical medium that transfers traffic; and

maximum frame size of packets in the traffic.

5. The method of Claim 1, wherein the host interface parameter comprises any of a local bus speed and number of bits that can be transmitted through the bus in a single cycle.

6. The method of Claim 1, wherein the storage threshold capacity comprises a difference between total storage capacity of the storage device to store traffic from a link partner and a safety margin and wherein the safety margin comprises:

- (i) amount of bits that might be transmitted from the link partner while the request to stop transmission of traffic is prepared +
- (ii) amount of bits that might be transmitted from the link partner while the request to stop transmission of traffic is in transit to the link partner +
- (iii) amount of bits that might arrive to the storage device from the link partner while the link partner processes the request to stop transmission of traffic +
- (iv) amount of bits that the link partner might have transmitted while the link partner processes the request to stop transmission of traffic -
- (v) amount of bits drained from the storage device during (i) through (iv).

7. The method of Claim 1 further comprising transmitting a request to allow transmission of traffic.

8. An apparatus comprising:

a storage device to store received traffic; and

a controller to manage the transmission of traffic to the storage device,

wherein the controller is configured to:

determine at least one network parameter;

determine at least one host interface parameter;

set a storage threshold capacity of the storage device based on at least one network parameter and at least one host interface parameter;

monitor storage conditions of a storage device; and

transmit a request to stop transmission of traffic based on the storage device exceeding the storage threshold capacity.

9. The apparatus of Claim 8, further comprising a physical layer interface to transfer received traffic to the storage device.

10. The apparatus of Claim 8, wherein the controller is further configured to perform media access control processing in compliance with IEEE 802.3x.

11. The apparatus of Claim 8, wherein the controller is configured to adjust the storage threshold capacity based on changes to a network parameter.
12. The apparatus of Claim 8, wherein the controller is configured to adjust the storage threshold capacity based on changes to a host interface parameter.
13. The apparatus of Claim 8, wherein the network parameter includes at least one of the following:
 - link speed of a network that transmits traffic to the storage device;
 - signal propagation speed of a physical medium that transfers traffic from the network to the storage device;
 - length of the physical medium that transfers traffic; and
 - maximum frame size of packets in the traffic.
14. The apparatus of Claim 8, wherein the host interface parameter comprises any of a local bus speed and number of bits that can be transmitted through the bus in a single cycle.
15. The apparatus of Claim 8, wherein the storage threshold capacity comprises a difference between total storage capacity and a safety margin and wherein total storage

capacity of the storage device comprises the total storage capacity of the storage device to store traffic from a link partner and wherein the safety margin comprises:

- (i) amount of bits that might be transmitted from the link partner while the request to stop transmission of traffic is prepared +
- (ii) amount of bits that might be transmitted from the link partner while the request to stop transmission of traffic is in transit to the link partner +
- (iii) amount of bits that might arrive to the storage device from the link partner while the link partner processes the request to stop transmission of traffic +
- (iv) amount of bits that the link partner might have transmitted while the link partner processes the request to stop transmission of traffic -
- (v) amount of bits drained from the storage device during (i) through (iv).

16. A system comprising:

a host system comprising a processor and a memory;

an interface;

a network interface device, the network interface device comprising:

a storage device to store received traffic; and

a controller to manage the transmission of traffic to the

storage device, wherein the controller is configured to:

determine at least one network parameter;

determine at least one host interface parameter;

set a storage threshold capacity of the storage device based on at least one network parameter and at least one host interface parameter;

monitor storage conditions of a storage device; and

transmit a request to stop transmission of traffic based on the storage device exceeding the storage threshold capacity.

17. The system of Claim 16, wherein the interface is compatible with PCI.
18. The system of Claim 16, wherein the interface is compatible with PCI-x.
19. The system of Claim 16, further comprising a storage device coupled to the interface.